BookletChartTM

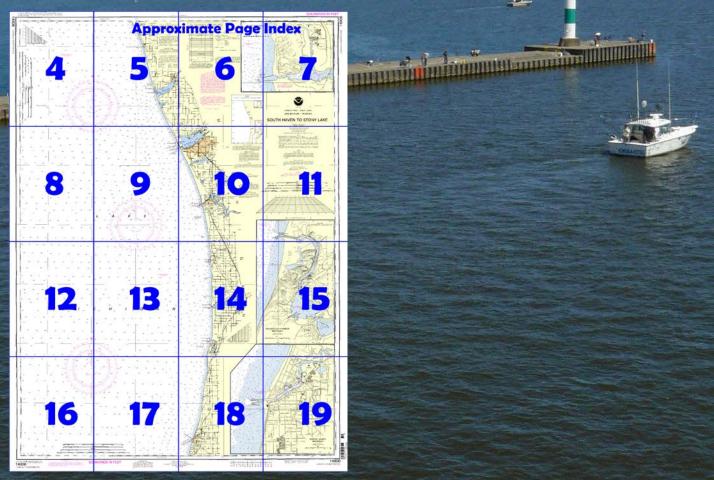
South Haven to Stony Lake NOAA Chart 14906



A reduced-scale NOAA nautical chart for small boaters When possible, use the full-size NOAA chart for navigation.



- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



Published by the National Oceanic and Atmospheric Administration National Ocean Service Office of Coast Survey

<u>www.NauticalCharts.NOAA.gov</u> 888-990-NOAA

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart[™]?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

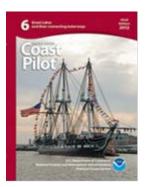
Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=149 06.



(Selected Excerpts from Coast Pilot)

From Little Sable Point, the shore trends south-southeast for 20 miles to White Lake. This stretch is quite rugged, with no shoals beyond 0.5 mile from shore. A wreck, covered ½ foot, is close to shore 0.8 mile south of Little Sable Light.

Stony Lake, 6.5 miles south of Little Sable Point has its outlet into Lake Michigan through **Stony Creek**. Rows of old piles at the mouth of the creek are the only remainder of former lumber loading

facilities. The creek is not navigable.

About 4 miles south of Stony Lake, several hills from 125 to 245 feet high are along the shore.

White Lake, about 20 miles south-southeast of Little Sable Point, is separated from Lake Michigan by a narrow strip of sandy bluffs. A dredged cut affords access between the lakes. The towns of Montague, MI, and Whitehall, MI, are at the northeast end of White Lake about 4 miles above the cut.

Channels.—The dredged entrance channel leads from deep water in Lake Michigan between parallel piers and revetments to the west end of White Lake. The outer ends of the piers and the inner end of the south pier are marked by lights. The outer end of the channel between the piers is subject to extensive shoaling. (See Notice to Mariners and the latest edition of the chart for controlling depths.) Currents in the channel attain velocities up to 3 mph in either direction. Mooring to the piers and revetments is prohibited. Mariners are cautioned against navigating outside channel limits in the vicinity of structures protected by stone riprap.

In White Lake, at the inner end of the dredged channel, the channel bends southeast around the shoal off **Indian Point.** The south edge of the shoal is marked by lighted buoys. The lake has central depths of 25 to 70 feet with shoals extending as much as 0.6 mile from shore. Lighted buoys and lights at the outer edges of the shoals mark the deep water through the lake to its head. **White River** flows into the head of the lake between Montague and Whitehall. The bar at the mouth of the river has depths of 2 feet.

Anchorages.—The preferred anchorages in White Lake are in the northwest end of the bay in the upper part of Indian Bay in depths of 25 to 30 feet, mud bottom; in the southwest part of the lake west of the yacht club in 10 to 25 feet, sand bottom; and in the northeast end of the lake S and west of the city dock in 8 to 10 feet, mud bottom.

A marina developed by the Michigan State Waterways Commission is at Whitehall. Marinas here and at Montague provide transient berths, gasoline, diesel fuel, water, ice, electricity, sewage pump-out, marine supplies, launching ramp, and harbormaster services. The harbormaster monitors VHF-FM channels 16 and 9. Hoists to 30 tons and a 15-ton marine railway for boats to 38 feet are available for hull, engine, and electronic repairs.

From White Lake, the shoreline continues south-southeast for 11 miles to Muskegon Lake. The shore consists of low sand bluffs and wooded hills, and is clear of shoals to within 0.6 mile.

Muskegon Harbor, 31 miles south-southeast of Little Sable Point, consists of Muskegon Lake and a dredged entrance channel which connects it with Lake Michigan.

Prominent features.—A lighted stack of the Consumers Energy Co. at the mouth of the Muskegon River in 43°15'16"N., 86°14'23"W. is prominent from Lake Michigan. Sandhills north and south of the harbor entrance may obstruct the stack from some directions.

Muskegon South Breakwater Light (43°13'27"N., 86°20'49"W.) 70 feet above the water, is shown from a pyramidal tower on the outer end of the S breakwater. A sound signal, which operates by keying the microphone five times on VHF-FM channel 79, is at the light.

Channels.—The dredged entrance channel leads from deep water in Lake Michigan between converging breakwaters to an outer basin, thence between piers and revetments to Muskegon Lake. The outer ends of the breakwaters and piers, and the inner ends of piers, are marked by lights. A sound signal, which reportedly operates by keying the microphone five times on VHF-FM channel 79, is at the light on the south pier. (See

U.S. Coast Guard Rescue Coordination Center 24 hour Regional Contact for Emergencies

2 mount deficition contact for Emergencies

RCC Cleveland Commander

9th CG District (216) 902-6117

Cleveland, OH



Buoys marking channel limits may be relocated as necessary without prior notice. prior notice.

Small boat operators are warned tha very shoal sand bars are frequently formed in the entrance channel.

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which is notificational action of 1993 (NRD 83), which for charling purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1902 must be corrected an average of 0.032" northward and 0.268" westward to agree with this chart.

CAUTION

BASCULE BRIDGE CLEARANCES

For bascule bridges, whose spans do not open to a full upright or vertical position, unlimited vertical clearance is not available for the entire charted horizontal clearance.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners. During some winter months or when endan-

gered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

CAUTION

Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117. Radio direction-finder bearings to commercial broadcasting stations are subject to error and exhuld be used with sculpt.

should be used with caution.

Station positions are shown thus:

⊙(Accurate location) o(Approximate location)

RACING BUOYS

Racing buoys within the limits of this chart are not shown hereon. Information may be obtained from the U.S. Coast Guard District Offices as racing and other private buoys are not all listed in the U.S. Coast Guard Light List.

NOAA WEATHER RADIO BROADCASTS

The NOAA Weather Radio stations listed below provide continuous weather broadcasts The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Grand Rapids, MI	KIG-63	162.550 MHz
Hesperia, MI	WWF-36	162.475 MHz
Oshtemo	WWF-34	162.475 MHz
West Olive, MI	WXN-99	162.425 MHz

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has beer omitted from this chart.

ACKNOWLEDGMENT

The National Ocean Service acknowledges the exceptional cooperation received from members of the Muskegon Power Squadron, District 9, United States Power Squadrons, in continually providing essential information for revising this

CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

Low Water Datum, which is the plane of reference for the levels shown on the above hydrograph, is also the plane of reference for the charted depths. If the lake level is above or below Low Water Datum, the existing depths are correspondingly greater or lesser than the charted depths.

Table of Selected Chart Notes

LORAN-C

GENERAL EXPLANATION

letter designators).

M......

Secondary X Secondary
Y Secondary
Z Secondary

EXAMPLE: 8970-Y

RATES ON THIS CHART

8970-X 8970-Y

Loran-C correction tables published by the National Geospatial-Intelligence Agency or others should not be used with this chart. The lines of position shown have been adjusted based on survey data. Every effort has been made to meet the ¼ nautical mile accuracy criteria established by the U.S. Coast Guard. Mariners are cautioned not to rely solely on the lattices in inshore waters.

Notic A

Navigation regulations are published in Chapter 2, U.S.

Coast Pilot 6. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 9th Coast Guard District in Cleveland, Ohio or at of the District Engineer, Corps of Engineers in Detroit, Michigan. Refer to charted regulation section numbers.

NO-DISCHARGE ZONE, 40 CFR 140

Michigan waters of Lakes Michigan, Huron, Superior, Erie and St. Clair, all waterways connected thereto, and all Erie and St. Clair, all waterways connected thereto, and all inland lakes are designated as a No-Discharge Zone (NDZ). This chart falls entirely within the limits of a No-Discharge Zone (NDZ). Under the Clean Water Act, Section 312, all wessels operating within a No-Discharge Zone (NDZ) are completely prohibited from discharging any sewage, treated or untreated, into the waters. Commercial vessel sewage shall include graywater. All vessels with an installed marine sanitation device (MSD) that are navigating, moored, anchored, or docked within a NDZ must have the MSD disabled to prevent the overboard discharge of sewage (treated or untreated) or install a holding tank. Regulations for the NDZ are contained in the U.S. Coast Pilot. Additional information concerning the regulations and requirements may be obtained from the Environmental Protection Agency (EPA) web site: http://www.epa.gov/owow/oceans/vessel_sewage/vsdnozone.html.

Due to periodic high water conditions in the Great Lakes, some features charted as visible at Low Water Datum may be submerged particularly in the near shore areas. Mariners should proceed with caution.

SOURCE DIAGRAM

Most of the hydrography identified by the letter "i" was surveyed by the U.S. Army Corps of Engineers prior to 1974. Channels currently maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

CAUTION

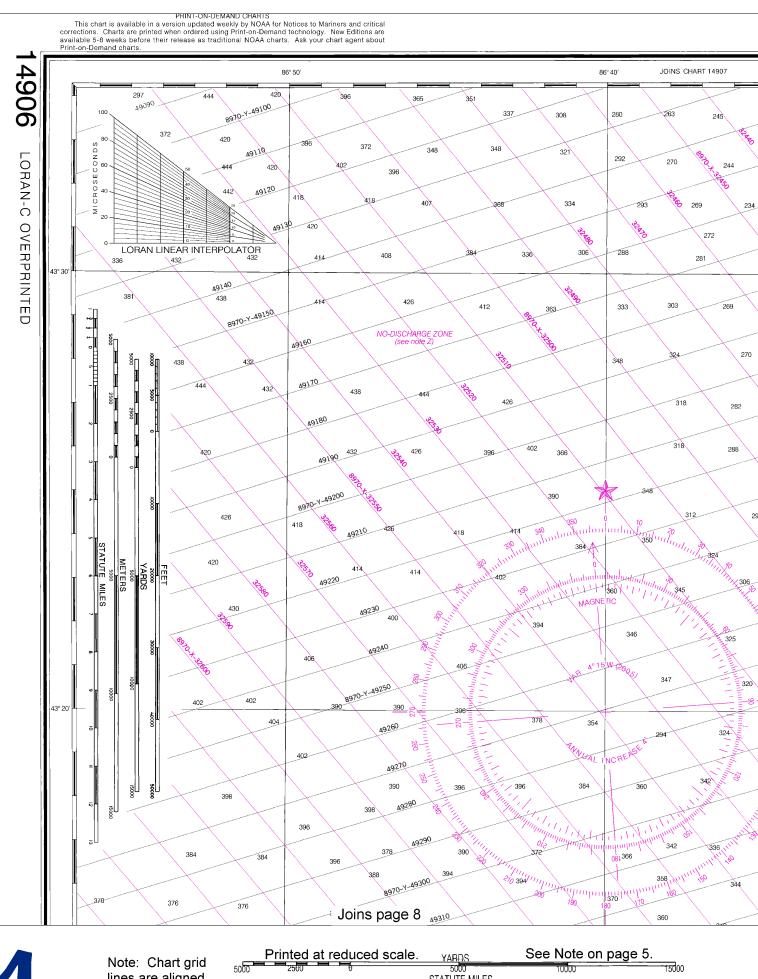
POTABLE WATER INTAKE

Vessels operating in fresh water lakes or rivers shall not discharge sewage, or ballast, or blige water within such areas adjacent to domestic water intakes as are designated by the Commissioner of Food and Drugs (21 CFR 1250.93). Consult U.S. Coast Pilot 6 for important supplemental

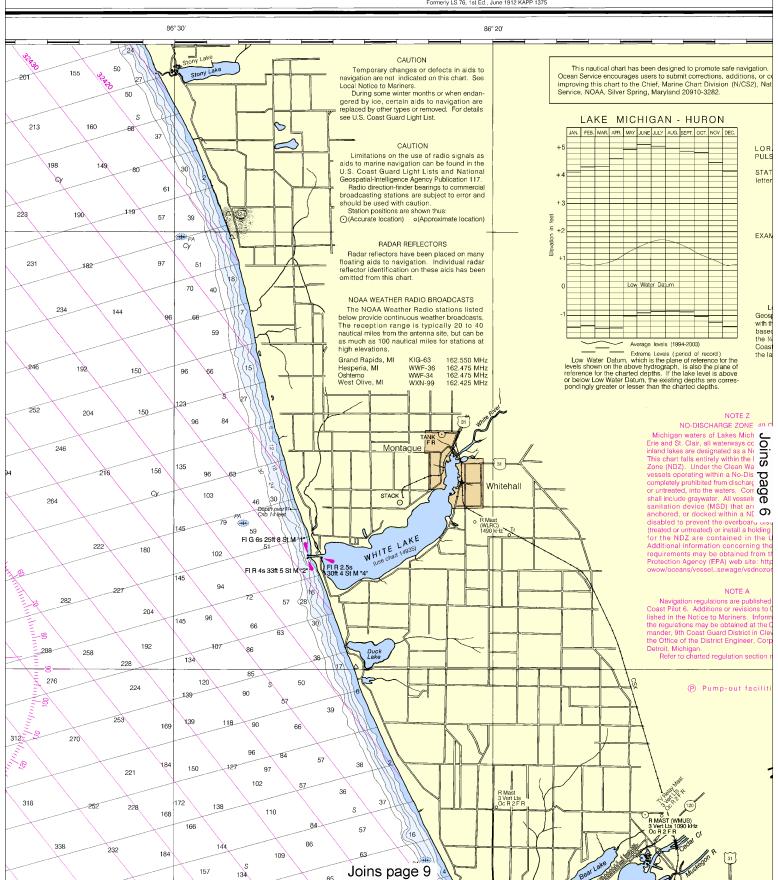
The prudent mariner will not rely solely on any single aid to navigation particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast

BRIDGE AND OVERHEAD CABLE CLEARANCES. When the water surface is above Low Water Datum, bridge and overhead clearances are reduced correspondingly. For clearances see U.S. Coast Pilot 6

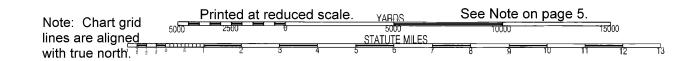
AUTHORITIES. Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and U. S. Coast Guard.



lines are aligned with true north. STATUTE MILES 12



This BookletChart was reduced to 75% of the original chart scale. The new scale is 1:160000. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.



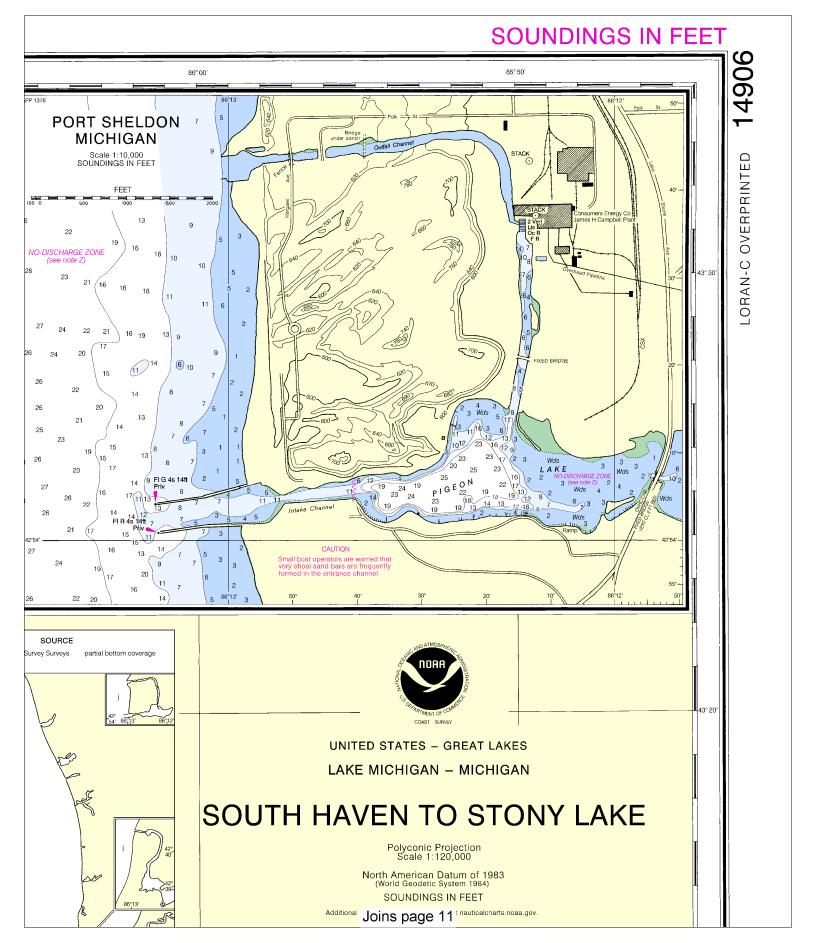
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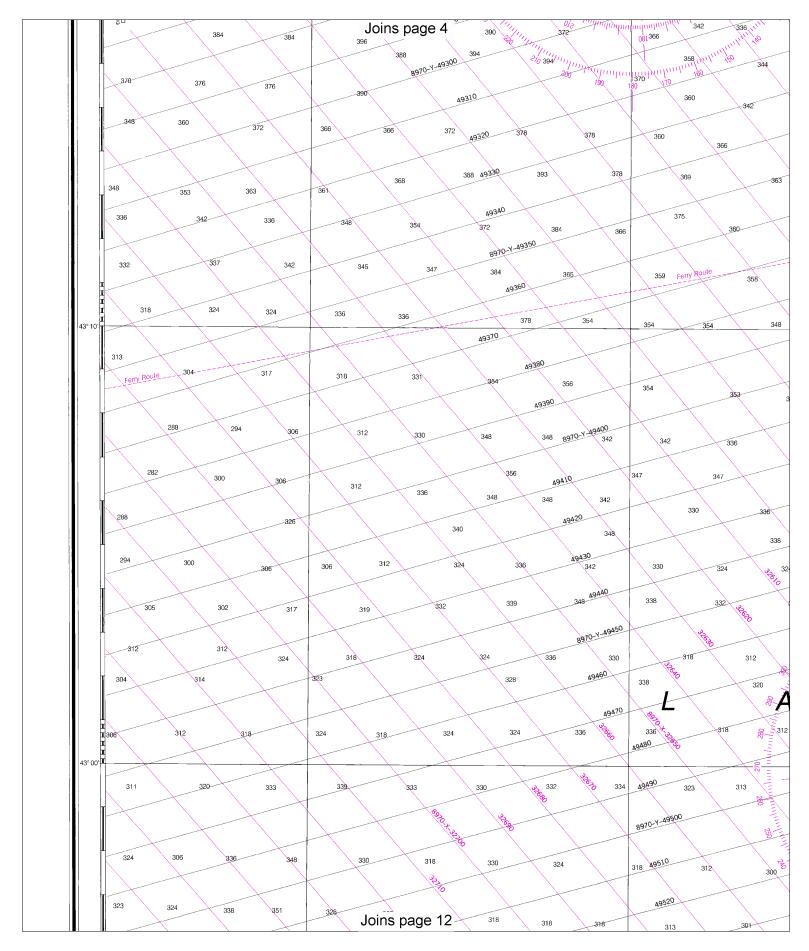
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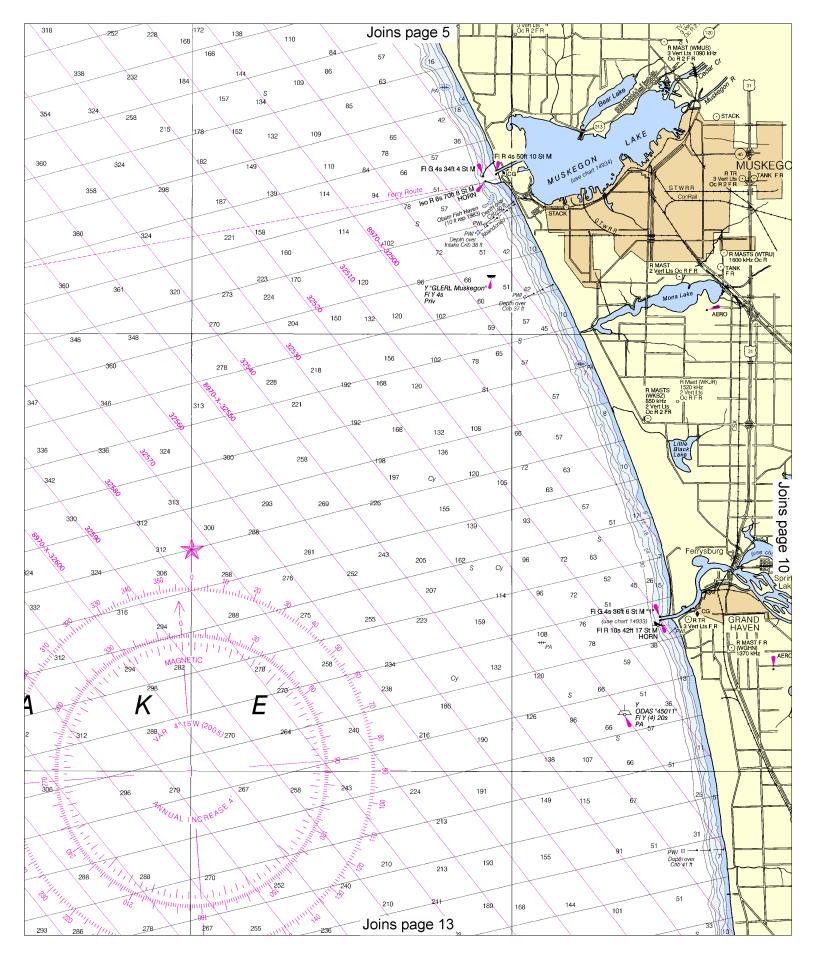
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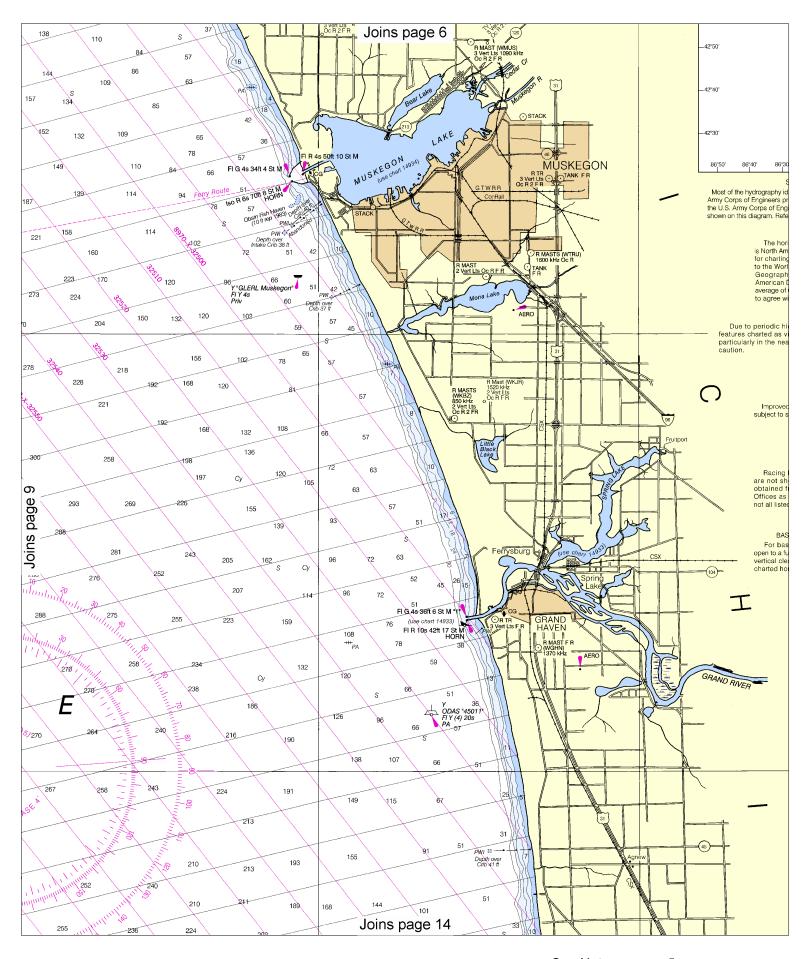
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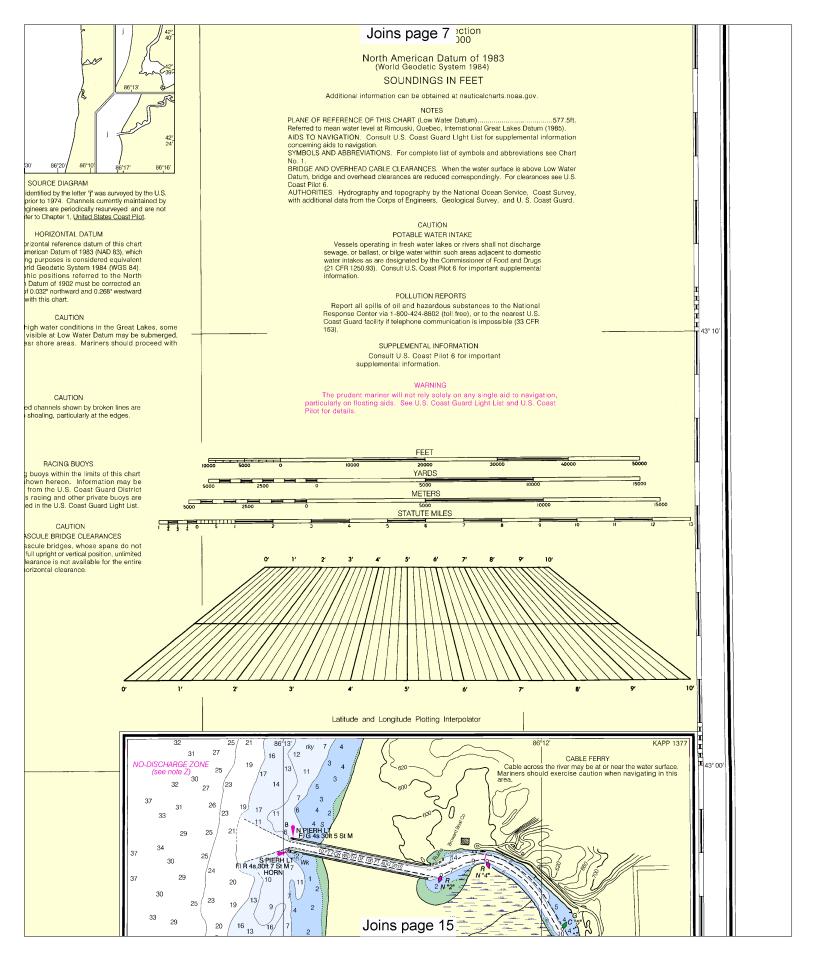


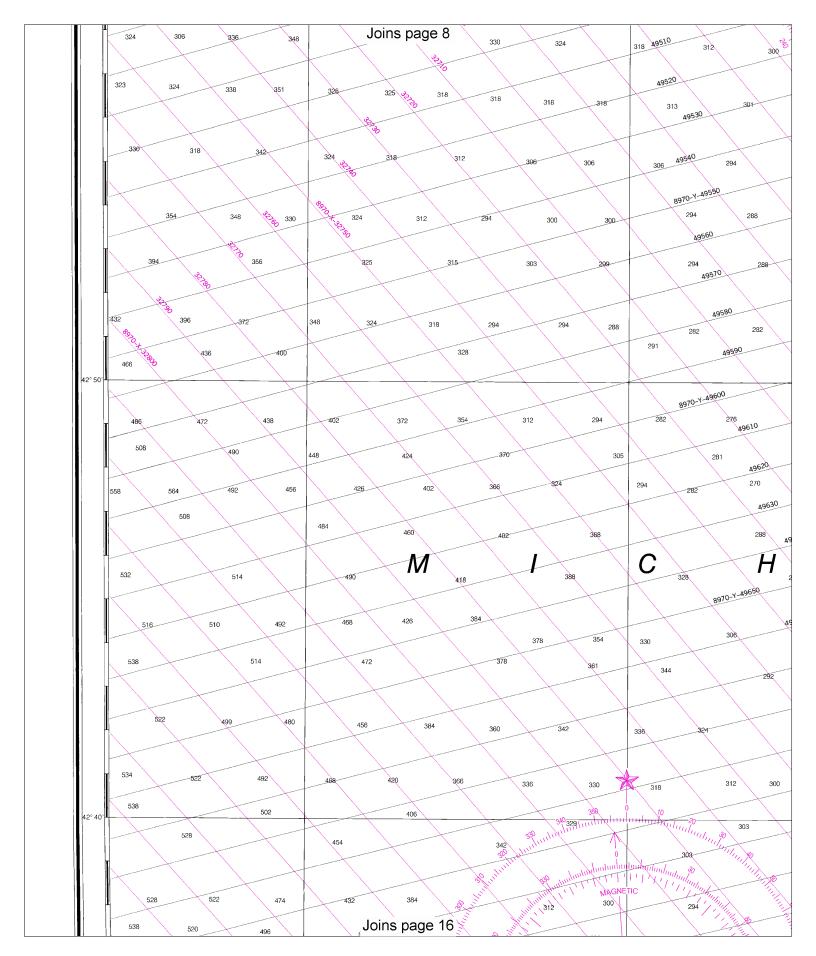












Note: Chart grid lines are aligned with true north. Printed at reduced scale. YARDS See Note on page 5.

See Note on page 5.

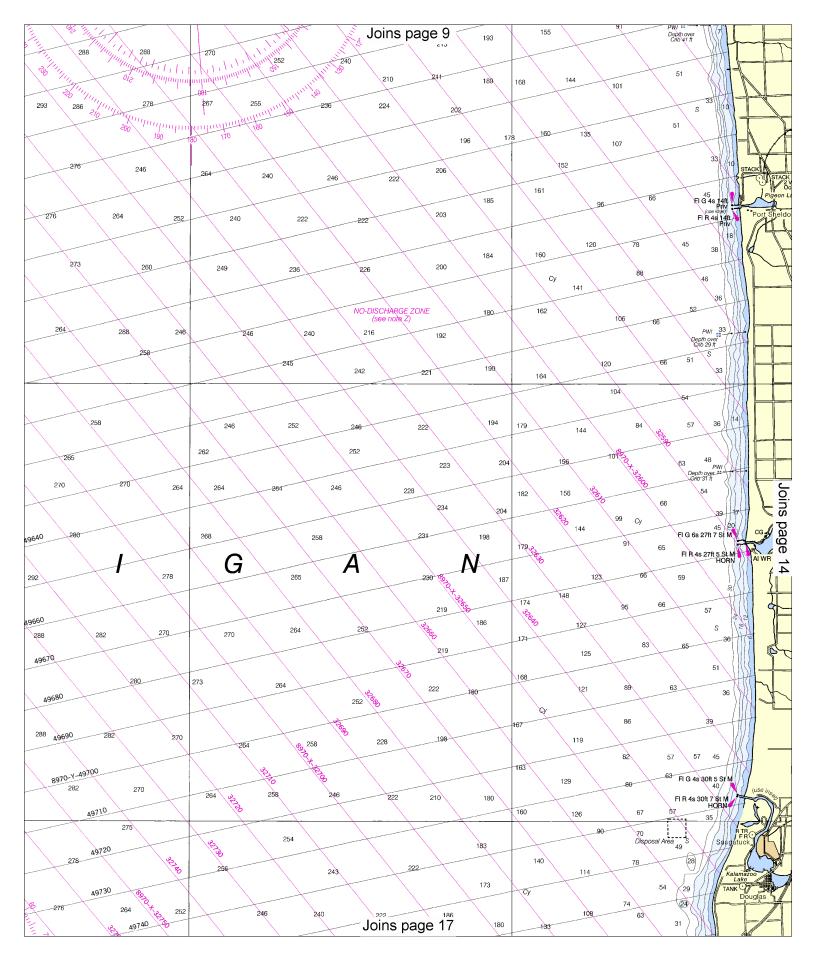
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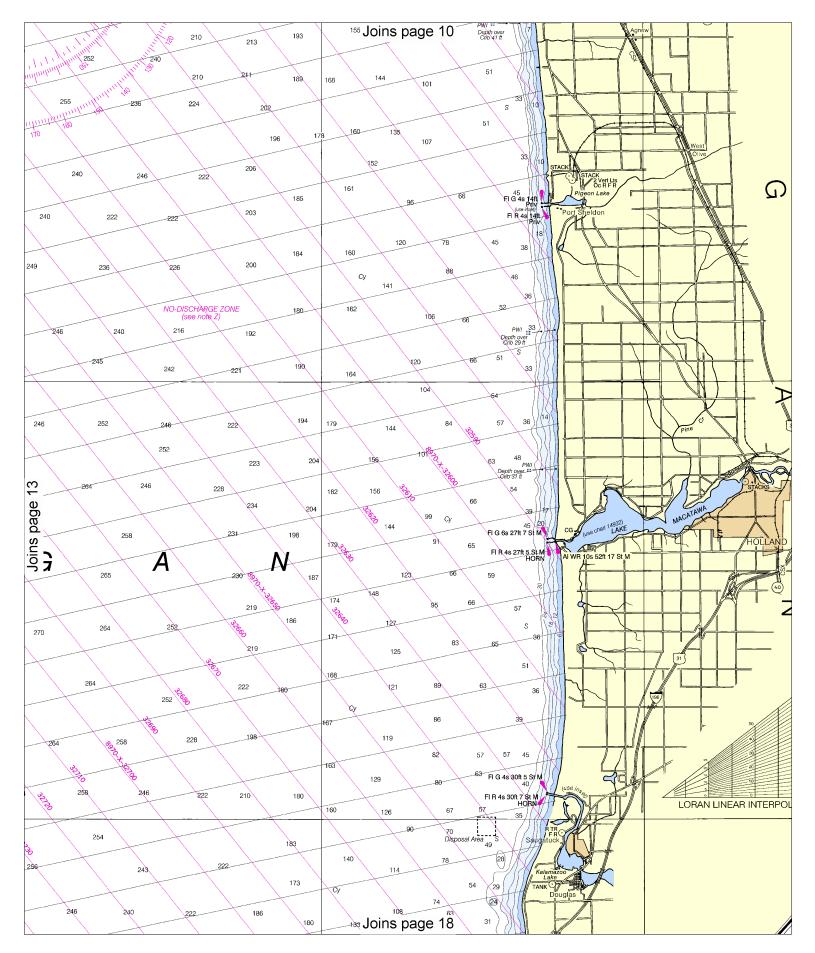
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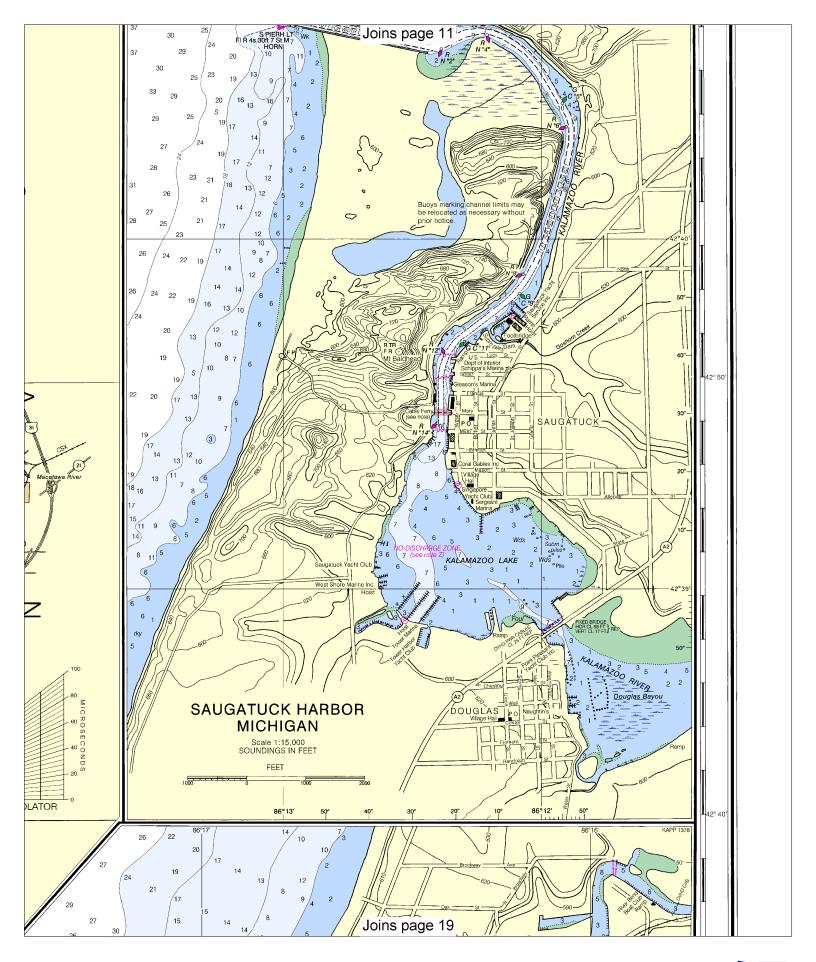
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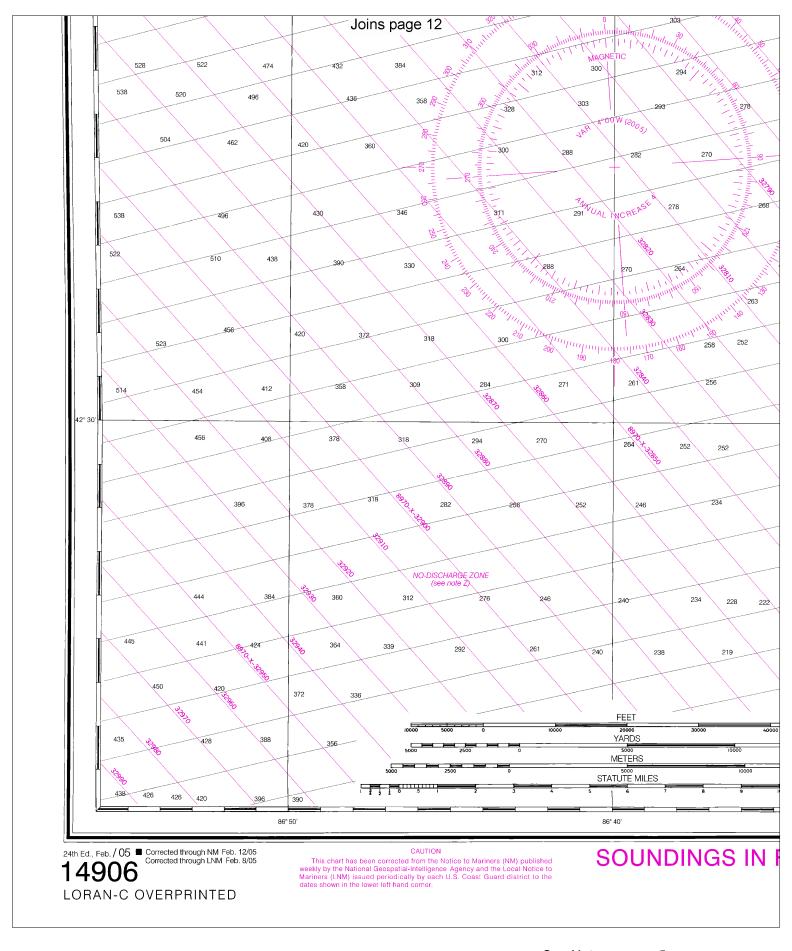
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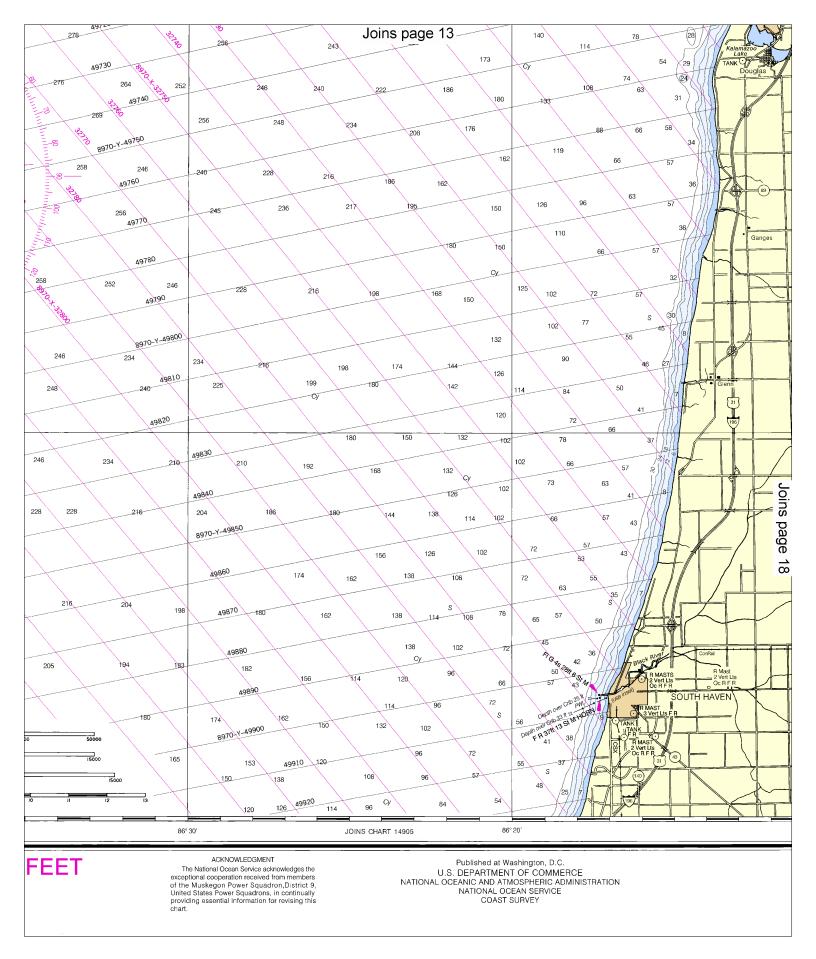


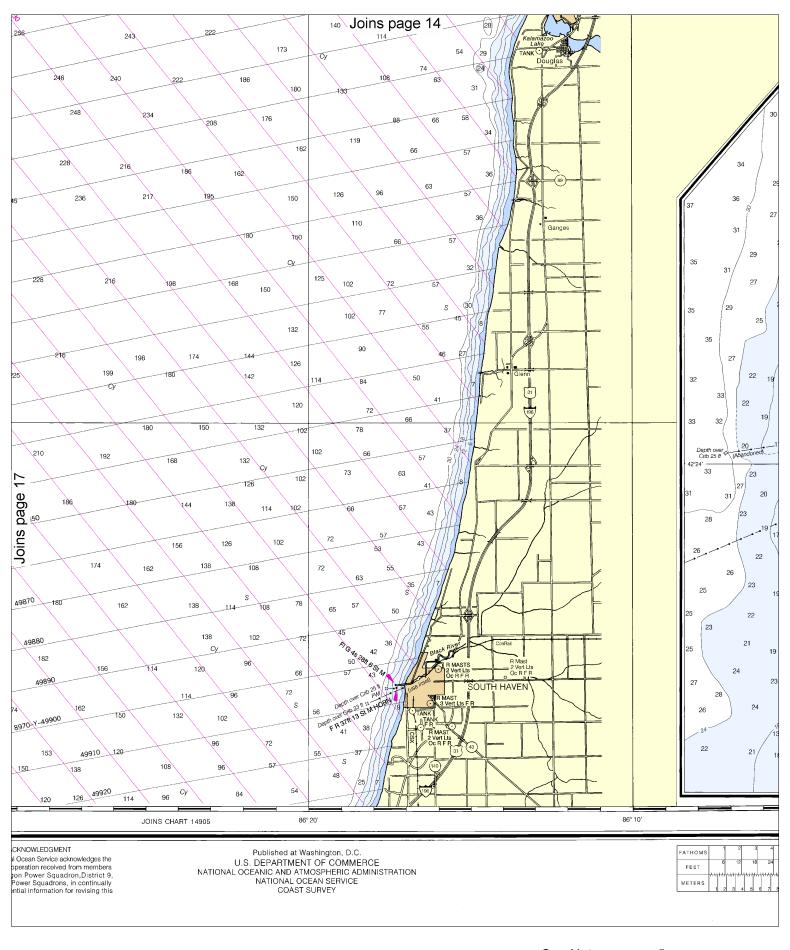


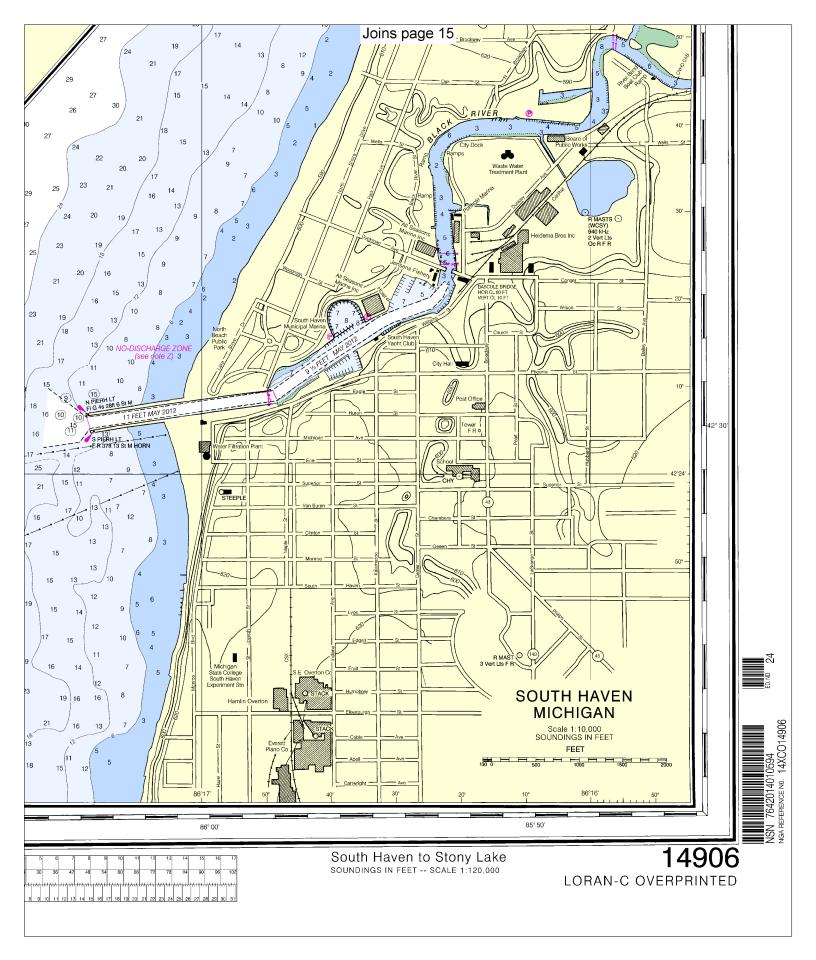
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VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.

Channel 9 – Communications between boats and ship-to-coast.

Channel 13 – Navigation purposes at bridges, locks, and harbors.

Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other

vessels. Contact the other vessel, agree to another channel, and then switch.

Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here. Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Getting and Giving Help — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of

Emergency; Number of People on Board.

- · Release transmit button.
- Wait for 10 seconds If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!



NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

http://www.nws.noaa.gov/nwr/

Quick References

Nautical chart related products and information — http://www.nauticalcharts.noaa.gov

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Chart and chart related inquiries and comments — http://ocsdata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs

Chart updates (LNM and NM corrections) — http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html

Coast Pilot online — http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm

Tides and Currents — http://tidesandcurrents.noaa.gov

Marine Forecasts — http://www.nws.noaa.gov/om/marine/home.htm

National Data Buoy Center — http://www.ndbc.noaa.gov/

NowCoast web portal for coastal conditions — http://www.nowcoast.noaa.gov/

National Weather Service — http://www.weather.gov/

National Hurrican Center — http://www.nhc.noaa.gov/

Pacific Tsunami Warning Center — http://ptwc.weather.gov/

Contact Us — http://www.nauticalcharts.noaa.gov/staff/contact.htm



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This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.

